## **Amendments to the Claims**

This listing of claims will replace all prior versions and listings of claims in the application:

## **Listing of Claims:**

1. (original) A method for treating an individual having or at risk of having a bacterial infection comprising:

administering to the individual a composition comprising a compound having the structure of formula 1a or 1b:

$$R^{2} \xrightarrow[R^{3}]{} L \xrightarrow[R^{4}]{} N-N=C \xrightarrow[R^{5}]{} R^{7}$$

$$1a$$

$$R^{1} \xrightarrow[R^{4}]{} 0$$

$$R^{2} \xrightarrow[R^{5}]{} L \xrightarrow[N-N]{} N-N=C \xrightarrow[R^{5}]{} R^{7}$$

$$1b$$

wherein R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are each, independently, selected from the group consisting of hydrogen (H), substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkyl, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclylaxylkyl, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted heterocyclylakyl, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted or unsubstituted or unsubstituted heterocyclyloxy, substituted or unsubstituted or unsubstituted heterocyclyloxy, substituted or unsubstituted heterocyclyloxy, substituted or unsubstituted or unsubstituted heterocyclyloxy, substituted heterocyclyloxy, and substituted or unsubstituted heterocyclyloxy, substituted heterocycl

R<sup>4</sup> and R<sup>5</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, and substituted or unsubstituted cycloalkyl; wherein when R<sup>4</sup> is H, two tautomeric forms depicted by structures 1a and 1b may exist;

R<sup>6</sup> and R<sup>7</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted alkylaryl, and substituted or unsubstituted heteroaryl, or R<sup>6</sup> and R<sup>7</sup> are atoms that form part of a aromatic or non-aromatic, heterocylic or carbocyclic ring or ring system, comprising either a monocyclic ring or a fused ring system, having ring atoms selected from the group consisting of substituted or unsubstituted carbon, nitrogen or sulfur; and

L may be absent or selected from the group consisting of linkers having 1-6 atoms in contiguous linear connectivity; or

an enantiomeric or diastereomeric form or a pharmaceutically acceptable salt thereof.

2. (original) The method according to Claim 1, wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are each, independently, selected from the group consisting of hydrogen (H), substituted or unsubstituted C<sub>1</sub>-6 alkyl, substituted or unsubstituted C<sub>2</sub>-6 alkenyl, substituted or unsubstituted C<sub>2</sub>-6 alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted C<sub>1-6</sub> alkylamino, substituted or unsubstituted C<sub>1-6</sub> alkylaminoalkyl, substituted or unsubstituted C<sub>1</sub>-6 alkoxy, substituted or unsubstituted C<sub>1</sub>-6 alkoxyalkyl, substituted or unsubstituted C<sub>1</sub>-6 alkylthio, substituted or unsubstituted C<sub>1</sub>-6 alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted C<sub>3-12</sub> carbocyclyl, substituted or unsubstituted C<sub>3-12</sub> carbocyclylalkyl, substituted or unsubstituted C<sub>3-12</sub> carbocyclyloxy, substituted or unsubstituted C<sub>3-12</sub> carbocyclyloxyalkyl, substituted or unsubstituted C<sub>3-12</sub> carbocyclylamino, substituted or unsubstituted C<sub>3-12</sub> carbocyclylaminoalkyl, substituted or unsubstituted 3-12 membered heterocyclyl, substituted or unsubstituted 3-12 membered heterocyclyl-C<sub>1</sub>-C<sub>6</sub> alkyl, substituted or unsubstituted 3-12 membered heterocyclyloxy, substituted or unsubstituted 3-12 membered heterocyclyloxy-C<sub>1</sub>-C<sub>6</sub>-alkyl, substituted or unsubstituted 3-12 membered heterocyclylamino, and substituted or unsubstituted 3-12 membered heterocyclylamino-C<sub>1</sub>-C<sub>6</sub>-alkyl;

 $R^4$  and  $R^5$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted

C<sub>2-6</sub> alkynyl, and substituted or unsubstituted C<sub>3-8</sub> cycloalkyl; wherein when R<sup>4</sup> is H, two tautomeric forms depicted by structures 1a and 1b may exist;

 $R^6$  and  $R^7$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, substituted or unsubstituted  $C_{3-12}$  cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted  $C_{1-6}$  alkylaryl, and substituted or unsubstituted  $C_{4-12}$  heteroaryl, or  $R^6$  and  $R^7$  are atoms that form part of a aromatic or non-aromatic, heterocylic or carbocyclic ring or ring system, comprising either a 3-6 membered monocyclic ring or a 6-12 membered fused ring system, having ring atoms selected from the group consisting of substituted or unsubstituted carbon, nitrogen, and sulfur; and

L may be absent or selected from the group consisting of linkers having 1-6 atoms in contiguous linear connectivity.

3. (original) The method according to Claim 2, wherein  $R^4$  and  $R^5$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl; wherein when  $R^4$  is H, two tautomeric forms depicted by structures 1a and 1b may exist;

 $R^6$  and  $R^7$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, substituted or unsubstituted  $C_{3-12}$  cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted  $C_{1-6}$  alkylaryl, and substituted or unsubstituted  $C_{4-12}$  heteroaryl, or  $R^6$  and  $R^7$  are atoms that form part of a ring system having the structure:

$$(R^{13})_n$$

wherein  $R^{12}$  is selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl,

each R<sup>13</sup> is selected from the group consisting of substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclyloxyalkyl, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclylakyl, substituted heterocyclyloxy, substituted or unsubstituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl;

n is an integer selected from 0, 1, 2, 3, and 4; and

L may be absent or selected from the group consisting of linkers having 1-3 atoms in contiguous linear connectivity.

4. (original) The method according to Claim 3, wherein  $R^4$ ,  $R^5$ , and  $R^6$  are H, and  $R^7$  is phenyl optionally substituted by one or more of  $C_{1^-6}$  alkyl,  $C_{1^-6}$  alkoxy, halo, amino, hydroxy, and halo, or  $R^6$  and  $R^7$  are atoms that form part of a ring system having the structure:

$$(R^{13})_n$$

wherein  $R^{12}$  is selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl,

each  $R^{13}$  is selected from the group consisting of substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, halo, amino, substituted or unsubstituted  $C_{1-6}$  acyl, substituted or unsubstituted aryl, substituted or unsubstituted  $C_{1-6}$  alkoxy, substituted or unsubstituted  $C_{1-6}$  alkoxyalkyl, nitro, hydroxyl, and cyano,

n is an integer selected from 0, 1, and 2; and

L is absent.

5. (original) The method according to Claim 1, wherein the compound has the structure of formula 2:

$$\begin{array}{c|c}
V & V & W \\
N-N & H & X & Y
\end{array}$$

wherein U, V, W, X, Y and Z may be the same or different and are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylaxyl, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclylaxyl, substituted or unsubstituted or unsubstituted heterocyclylaxyl, substituted heterocyclylaxyl, substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl;

or an enantiomeric or diastereomeric form or a pharmaceutically acceptable salt thereof.

- 6. (original) The method according to Claim 5, wherein U, V, W, X, Y, and Z are, independently, selected from the group consisting of H,  $C_{1-4}$  alkyl,  $C_{3-6}$  cycloalkyl,  $C_{1-4}$  alkoxy, halo, hydroxyl, and amino.
- 7. (original) The method according to Claim 5, wherein the compound is selected from the group consisting of Compounds 1-19, having the structure indicated by formula 2 and the table below:

$$\begin{array}{c|c} V & V & W \\ \hline N-N & H & X & Y \\ \hline \end{array}$$

Compound Number	U	V	W	X	Y	Z
1	Н	Н	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
2	Н	OCH <sub>3</sub>	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
3	Н	OCH <sub>3</sub>	Н	Н	OCH <sub>2</sub> CH <sub>3</sub>	ОН
4	Н	Н	Н	ОН	Н	OH
5	Н	Н	Н	Н	OCH <sub>3</sub>	ОН
6	Н	Н	Br	ОН	Н	Н
7	Н	OCH <sub>2</sub> CH <sub>3</sub>	Н	ОН	OCH <sub>3</sub>	Н
8	CH <sub>3</sub>	Н	Н	ОН	OCH <sub>3</sub>	Н
9	Н	Н	Н	ОН	Н	Н
10	Н	OCH <sub>3</sub>	Н	Н	ОН	Н
11	Н	Н	Н	Н	Н	CH <sub>3</sub>
12	Н	Н	C <sub>4</sub> H <sub>9</sub>	Н	C <sub>4</sub> H <sub>9</sub>	ОН
13	OCH <sub>3</sub>	Н	Н	Н	Н	Н
14	Н	OCH <sub>3</sub>	Н	Н	Н	ОН
15	Cl	Н	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
16	OCH <sub>3</sub>	Н	Н	Н	Н	OH
17	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
18	OCH <sub>3</sub>	Н	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>

19	$OC_2H_5$	Н	Н	H	OCH <sub>3</sub>	ОН	

8. (original) The method according to Claim 1, wherein the compound has the structure of formula 3:

wherein, U and V may be the same or different and are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylamino, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxy, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted heterocyclylamino, substituted or unsubstituted heterocyclylakyl, substituted or unsubstituted heterocyclylaxyl, substituted or unsubstituted heterocyclyloxy, substituted or unsubstituted heterocyclyloxylakyl, substituted or unsubstituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl; and

T is selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, and substituted or unsubstituted cycloalkyl.

9. (original) The method according to Claim 8, wherein U and V are independently selected from the group consisting of H,  $C_{1-4}$  alkyl,  $C_{1-4}$  alkoxy, and aryl, and T is selected from the group consisting of H and  $C_{1-4}$  alkyl.

10. (original) The method according to Claim 8, wherein the compound is selected from the group consisting of Compounds 20 and 21, having the structure indicated by formula 3 and the table below:

Compound Number	T	U	V
20	$C_2H_5$	Н	Н
21	$C_2H_5$	Н	C <sub>6</sub> H <sub>5</sub>

11. (currently amended) The method according to <u>Claim 1</u> any of <u>Claims 1-10</u>, wherein the composition further comprises a pharmaceutically acceptable carrier.

12. (original) The method according to Claim 11, wherein the composition further comprises an additional ingredient selected from the group consisting of another antibiotic, an antiviral compound, an anti-cancer compound, a vitamin, a trace metal supplement, an ion, and combinations thereof.

13. (currently amended) The method according to <u>Claim 1</u> any of <u>Claims 1-10</u>, wherein the composition is administered to the individual parenterally or non-parenterally.

14. (currently amended) The method according to <u>Claim 1</u> any of <u>Claims 1-10</u>, wherein the composition is administered to the individual through a route selected from the group consisting of intravenously, subcutaneously, intramuscularly, intraorbitally, ophthalmically, intraventricularly, intracranially, intracapsularly, intraspinally, intracisternally, intraperitoneally, intransally, orally, buccally, rectally, vaginally, topically, and combinations thereof.

- 15. (currently amended) The method according to <u>Claim 1</u> any of <u>Claims 1-10</u>, wherein the composition is administered to the individual by aerosol, by scarification, or by surgical implant.
- 16. (currently amended) The method according to <u>Claim 1</u> any of <u>Claims 1-10</u>, wherein the bacterial infection is caused by Gram-positive bacteria or mycoplasma bacteria.
- 17. (original) The method according to Claim 16, wherein the bacteria are Gram-positive bacteria.
- 18. (original) The method according to Claim 17, wherein the Gram-positive bacteria are selected from the group consisting of *Streptococcus, Enterococcus, Staphylococcus, Bacillus, Clostridium, Listeria*, and combinations thereof.
- 19. (currently amended) The method according to <u>Claim 1</u> any of <u>Claims 1-10</u>, wherein the bacterial infection is caused by Gram-negative bacteria.
- 20. (original) The method according to Claim 19, wherein the Gram-negative bacteria are selected from the group consisting of *Escherichia*, *Salmonella*, *Pseudomonas*, *Helicobacter*, *Legionella*, *Shigella*, *Yersinia*, *Neisseria*, and combinations thereof.
- 21. (original) A method of inhibiting growth of bacteria comprising: contacting the bacteria with a compound having a structure of formula 1a or 1b:

$$R^{2} \xrightarrow[R^{3}]{} L \xrightarrow[R^{4}]{} N-N=C$$

$$R^{6}$$

$$R^{7}$$

$$R^{2} \xrightarrow[R^{3}]{} L \xrightarrow[N^{-}N]{} N-N=C$$

$$R^{6}$$

$$R^{7}$$

$$R^{3} \xrightarrow[R^{4}]{} N-N=C$$

$$R^{6}$$

$$R^{7}$$

$$R^{3} \xrightarrow[R^{4}]{} N$$

$$R^{4} \xrightarrow[R^{5}]{} N$$

$$R^{4} \xrightarrow[R^{5}]{} N$$

wherein R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are each, independently, selected from the group consisting of hydrogen (H), substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or

unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylalkyl, substituted or unsubstituted carbocyclyloxyalkyl, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted heterocyclylaminoalkyl, substituted or unsubstituted heterocyclylakyl, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted or unsubstituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl;

R<sup>4</sup> and R<sup>5</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, and substituted or unsubstituted cycloalkyl; wherein when R<sup>4</sup> is H, two tautomeric forms depicted by structures 1a and 1b may exist;

R<sup>6</sup> and R<sup>7</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted alkylaryl, and substituted or unsubstituted heteroaryl, or R<sup>6</sup> and R<sup>7</sup> are atoms that form part of a aromatic or non-aromatic, heterocylic or carbocyclic ring or ring system, comprising either a monocyclic ring or a fused ring system, having ring atoms selected from the group consisting of substituted or unsubstituted carbon, nitrogen, and sulfur; and

L may be absent or selected from the group consisting of linkers having 1-6 atoms in contiguous linear connectivity; or

an enantiomeric or diastereomeric form or a pharmaceutically acceptable salt thereof.

22. (original) The method according to Claim 21, wherein  $R^1$ ,  $R^2$ , and  $R^3$  are each, independently, selected from the group consisting of hydrogen (H), substituted or unsubstituted  $C_{1^{-6}}$  alkyl, substituted or unsubstituted  $C_{2^{-6}}$  alkenyl, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted  $C_{1^{-6}}$  alkylamino, substituted or unsubstituted  $C_{1^{-6}}$ 

alkylaminoalkyl, substituted or unsubstituted  $C_{1^-6}$  alkoxy, substituted or unsubstituted  $C_{1^-6}$  alkylthio, substituted or unsubstituted  $C_{1^-6}$  alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted  $C_{3^-12}$  carbocyclyl, substituted or unsubstituted  $C_{3^-12}$  carbocyclylakyl, substituted or unsubstituted  $C_{3^-12}$  carbocyclyloxy, substituted or unsubstituted  $C_{3^-12}$  carbocyclyloxyalkyl, substituted or unsubstituted  $C_{3^-12}$  carbocyclylamino, substituted or unsubstituted  $C_{3^-12}$  carbocyclylaminoalkyl, substituted or unsubstituted  $C_{3^-12}$  carbocyclylaminoalkyl, substituted or unsubstituted  $C_{3^-12}$  carbocyclylaminoalkyl, substituted or unsubstituted  $C_{3^-12}$  membered heterocyclyl- $C_{1^-}$  alkyl, substituted or unsubstituted  $C_{3^-12}$  membered heterocyclyloxy, and substituted or unsubstituted  $C_{3^-12}$  membered heterocyclylamino, and substituted or unsubstituted  $C_{3^-12}$  membered heterocyclylamino- $C_{1^-12}$ 

 $R^4$  and  $R^5$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl; wherein when  $R^4$  is H, two tautomeric forms depicted by structures 1a and 1b may exist;

 $R^6$  and  $R^7$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, substituted or unsubstituted  $C_{3-12}$  cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted  $C_{1-6}$  alkylaryl, and substituted or unsubstituted  $C_{4-12}$  heteroaryl, or  $R^6$  and  $R^7$  are atoms that form part of a aromatic or non-aromatic, heterocylic or carbocyclic ring or ring system, comprising either a 3-6 membered monocyclic ring or a 6-12 membered fused ring system, having ring atoms selected from the group consisting of substituted or unsubstituted carbon, nitrogen, and sulfur; and

L may be absent or selected from the group consisting of linkers having 1-6 atoms in contiguous linear connectivity.

23. (original) The method according to Claim 22, wherein R<sup>4</sup> and R<sup>5</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted C<sub>1-6</sub> alkyl, and

substituted or unsubstituted C<sub>3-8</sub> cycloalkyl; wherein when R<sup>4</sup> is H, two tautomeric forms depicted by structures 1a and 1b may exist;

 $R^6$  and  $R^7$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, substituted or unsubstituted  $C_{3-12}$  cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted  $C_{1-6}$  alkylaryl, and substituted or unsubstituted  $C_{4-12}$  heteroaryl, or  $R^6$  and  $R^7$  are atoms that form part of a ring system having the structure:

$$(R^{13})_n$$

wherein  $R^{12}$  is selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl,

each R<sup>13</sup> is selected from the group consisting of substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclyloxyalkyl, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclylakyl, substituted heterocyclyloxy, substituted or unsubstituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl;

n is an integer selected from 0, 1, 2, 3, and 4; and

L may be absent or selected from the group consisting of linkers having 1-3 atoms in contiguous linear connectivity.

24. (original) The method according to Claim 23, wherein  $R^4$ ,  $R^5$ , and  $R^6$  are H, and  $R^7$  is phenyl optionally substituted by one or more of  $C_{1^-6}$  alkyl,  $C_{1^-6}$  alkoxy, halo, amino, hydroxy, and halo, or  $R^6$  and  $R^7$  are atoms that form part of a ring system having the structure:

$$(R^{13})_n$$

wherein  $R^{12}$  is selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl,

each  $R^{13}$  is selected from the group consisting of substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, halo, amino, substituted or unsubstituted  $C_{1-6}$  acyl, substituted or unsubstituted aryl, substituted or unsubstituted  $C_{1-6}$  alkoxy, substituted or unsubstituted  $C_{1-6}$  alkoxyalkyl, nitro, hydroxyl, and cyano,

n is an integer selected from 0, 1, and 2; and

L is absent.

25. (original) The method according to Claim 21, wherein the compound has the structure of formula 2:

$$\begin{array}{c|c}
V & V & W \\
N-N & H & H & X & Y
\end{array}$$

wherein U, V, W, X, Y, and Z may be the same or different and are independently selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkynyl, halo, amino, substituted or

unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted or unsubstituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted carbocyclyloxyalkyl, substituted or unsubstituted or unsubstituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted or unsubstituted or unsubstituted or unsubstituted or unsubstituted heterocyclylakyl, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl; or an enantiomeric or diastereomeric form or a pharmaceutically acceptable salt thereof.

- 26. (original) The method according to Claim 25, wherein U, V, W, X, Y, and Z are independently selected from the group consisting of H, C<sub>1</sub>-4 alkyl, C<sub>3</sub>-6 cycloalkyl, C<sub>1</sub>-4 alkoxy, halo, hydroxyl, and amino.
- 27. (original) The method according to Claim 25, wherein the compound is selected from the group consisting of Compounds 1-19, having the structure indicated by formula 2 and the table below:

$$\begin{array}{c|c}
V & O & W \\
N-N & H & X & Y
\end{array}$$

Compound Number	U	V	W	X	Y	Z
1	Н	Н	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
2	Н	OCH <sub>3</sub>	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
3	Н	OCH <sub>3</sub>	Н	Н	OCH <sub>2</sub> CH <sub>3</sub>	ОН
4	Н	Н	Н	ОН	Н	ОН
5	Н	Н	Н	Н	OCH <sub>3</sub>	ОН
6	Н	Н	Br	ОН	Н	Н

7	Н	OCH <sub>2</sub> CH <sub>3</sub>	Н	ОН	OCH <sub>3</sub>	Н
8	CH <sub>3</sub>	Н	Н	ОН	OCH <sub>3</sub>	Н
9	Н	Н	Н	ОН	Н	Н
10	Н	OCH <sub>3</sub>	Н	Н	ОН	Н
11	Н	Н	Н	Н	Н	CH <sub>3</sub>
12	Н	Н	C <sub>4</sub> H <sub>9</sub>	Н	C <sub>4</sub> H <sub>9</sub>	ОН
13	OCH <sub>3</sub>	Н	Н	Н	Н	Н
14	Н	OCH <sub>3</sub>	Н	Н	Н	ОН
15	Cl	Н	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
16	OCH <sub>3</sub>	Н	Н	Н	Н	ОН
17	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
18	OCH <sub>3</sub>	Н	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
19	OC <sub>2</sub> H <sub>5</sub>	Н	Н	Н	OCH <sub>3</sub>	ОН

28. (original) The method according to Claim 21, wherein the compound has the structure of formula 3:

wherein, U and V may be the same or different and are independently selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxy, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted carbocyclyloxyalkyl, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted carbocyclylaminoalkyl,

substituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl; and

T is selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, and substituted or unsubstituted cycloalkyl.

- 29. (original) The method according to Claim 28, wherein U and V are independently selected from the group consisting of H,  $C_{1-4}$  alkyl,  $C_{1-4}$  alkoxy, and aryl, and T is selected from the group consisting of H and  $C_{1-4}$  alkyl.
- 30. (original) The method according to Claim 28, wherein the compound is selected from the group consisting of Compounds 20 and 21, having the structure indicated by formula 3 and the table below:

Compound Number	Т	U	V
20	$C_2H_5$	Н	Н
21	$C_2H_5$	Н	C <sub>6</sub> H <sub>5</sub>

- 31. (currently amended) The method according to <u>Claim 21</u> any of <u>Claims 21-30</u>, wherein the bacteria are Gram-positive bacteria or mycoplasma bacteria.
- 32. (original) The method according to Claim 31, wherein the bacteria are Gram-positive bacteria.

- 33. (original) The method according to Claim 32, wherein the Gram-positive bacteria are selected from the group consisting of *Streptococcus, Enterococcus, Staphylococcus, Bacillus, Clostridium, Listeria*, and combinations thereof.
- 34. (currently amended) The method according to <u>Claim 21</u> any of <u>Claims 21-30</u>, wherein the bacteria are Gram-negative bacteria.
- 35. (original) The method according to Claim 34, wherein the Gram-negative bacteria are selected from the group consisting of *Escherichia, Salmonella, Pseudomonas, Helicobacter, Legionella, Shigella, Yersinia, Neisseria*, and combinations thereof.
- 36. (original) A method of inhibiting the activity of a DNA polymerase III comprising: contacting the DNA polymerase III with a compound having a structure of formula 1a or 1b:

$$R^{2} \xrightarrow{\stackrel{}{\underset{N^{-}N}{\bigvee}}} L \xrightarrow{\stackrel{}{\underset{N^{-}N}{\bigvee}}} R^{5}$$

$$R^{4}$$

$$R^{2} \xrightarrow{\stackrel{}{\underset{N^{-}N}{\bigvee}}} R^{5}$$

$$R^{2} \xrightarrow{\stackrel{}{\underset{N^{-}N}{\bigvee}}} R^{4}$$

$$R^{3} \xrightarrow{\stackrel{}{\underset{N^{-}N}{\bigvee}}} R^{4}$$

$$R^{4} \xrightarrow{\stackrel{}{\underset{N^{-}N}{\bigvee}}} R^{5}$$

$$R^{5} \xrightarrow{\stackrel{}{\underset{N^{-}N}{\bigvee}}} R^{5}$$

$$R^{5} \xrightarrow{\stackrel{}{\underset{N^{-}N}{\bigvee}}} R^{5}$$

wherein R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are each, independently, selected from the group consisting of hydrogen (H), substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkyl, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclylawino, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted heterocyclylakyl, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted or unsubstituted or unsubstituted heterocyclyloxy, substituted heterocyclyloxy, and substituted or unsubstituted heterocyclyloxy, substituted heterocyclyloxy, sub

R<sup>4</sup> and R<sup>5</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, and substituted or unsubstituted cycloalkyl; wherein when R<sup>4</sup> is H, two tautomeric forms depicted by structures 1a and 1b may exist;

R<sup>6</sup> and R<sup>7</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted alkylaryl, and substituted or unsubstituted heteroaryl, or R<sup>6</sup> and R<sup>7</sup> are atoms that form part of a aromatic or non-aromatic, heterocylic or carbocyclic ring or ring system, comprising either a monocyclic ring or a fused ring system, having ring atoms selected from the group consisting of substituted or unsubstituted carbon, nitrogen, and sulfur; and

L may be absent or selected from the group consisting of linkers having 1-6 atoms in contiguous linear connectivity; or an enantiomeric or diastereomeric form or a pharmaceutically acceptable salt thereof.

37. (original) The method according to Claim 36, wherein R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are each, independently, selected from the group consisting of hydrogen (H), substituted or unsubstituted C<sub>1</sub>-6 alkyl, substituted or unsubstituted C<sub>2</sub>-6 alkenyl, substituted or unsubstituted C<sub>2</sub>-6 alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted C<sub>1</sub>-6 alkylamino, substituted or unsubstituted C<sub>1</sub>-6 alkylaminoalkyl, substituted or unsubstituted C<sub>1</sub>-6 alkylthio, substituted or unsubstituted C<sub>1</sub>-6 alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted C<sub>3</sub>-12 carbocyclyl, substituted or unsubstituted C<sub>3</sub>-12 carbocyclylakyl, substituted or unsubstituted C<sub>3</sub>-12 carbocyclyloxy, substituted or unsubstituted C<sub>3</sub>-12 carbocyclylamino, substituted or unsubstituted C<sub>3</sub>-12 carbocyclylaminoalkyl, substituted or unsubstituted C<sub>3</sub>-12 carbocyclylaminoalkyl, substituted or unsubstituted C<sub>3</sub>-12 carbocyclylaminoalkyl, substituted or unsubstituted 3-12 membered heterocyclyl, substituted or unsubstituted or unsubstituted or unsubstituted 3-12 membered heterocyclyloxy, substituted or unsubstituted or unsubstituted or unsubstituted 3-12 membered heterocyclyloxy, substituted or unsubstituted 3-12 membered heterocyclyloxy-C<sub>1</sub>-

C<sub>6</sub>-alkyl, substituted or unsubstituted 3-12 membered heterocyclylamino, and substituted or unsubstituted 3-12 membered heterocyclylamino-C<sub>1</sub>-C<sub>6</sub>-alkyl;

 $R^4$  and  $R^5$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl; wherein when  $R^4$  is H, two tautomeric forms depicted by structures 1a and 1b may exist;

 $R^6$  and  $R^7$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, substituted or unsubstituted  $C_{3-12}$  cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted  $C_{1-6}$  alkylaryl, and substituted or unsubstituted  $C_{4-12}$  heteroaryl, or  $R^6$  and  $R^7$  are atoms that form part of a aromatic or non-aromatic, heterocylic or carbocyclic ring or ring system, comprising either a 3-6 membered monocyclic ring or a 6-12 membered fused ring system, having ring atoms selected from the group consisting of substituted or unsubstituted carbon, nitrogen, and sulfur; and

L may be absent or selected from the group consisting of linkers having 1-6 atoms in contiguous linear connectivity.

38. (original) The method according to Claim 37, wherein  $R^4$  and  $R^5$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl; wherein when  $R^4$  is H, two tautomeric forms depicted by structures 1a and 1b may exist;

 $R^6$  and  $R^7$  are, independently, selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, substituted or unsubstituted  $C_{3-12}$  cycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted  $C_{1-6}$  alkylaryl, and substituted or unsubstituted  $C_{4-12}$  heteroaryl, or  $R^6$  and  $R^7$  are atoms that form part of a ring system having the structure:

wherein  $R^{12}$  is selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl,

each R<sup>13</sup> is selected from the group consisting of substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylaxyl, substituted or unsubstituted carbocyclyloxyalkyl, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclylaxyl, substituted or unsubstituted heterocyclyloxy, substituted or unsubstituted heterocyclyloxy, substituted or unsubstituted heterocyclyloxylkyl, substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl;

n is an integer selected from 0, 1, 2, 3, and 4; and

L may be absent or selected from the group consisting of linkers having 1-3 atoms in contiguous linear connectivity.

39. (original) The method according to Claim 38, wherein  $R^4$ ,  $R^5$ , and  $R^6$  are H, and  $R^7$  is phenyl optionally substituted by one or more of  $C_{1^-6}$  alkyl,  $C_{1^-6}$  alkoxy, halo, amino, hydroxy, and halo, or  $R^6$  and  $R^7$  are atoms that form part of a ring system having the structure:

$$(R^{13})_n$$

wherein  $R^{12}$  is selected from the group consisting of H, substituted or unsubstituted  $C_{1-6}$  alkyl, and substituted or unsubstituted  $C_{3-8}$  cycloalkyl,

each  $R^{13}$  is selected from the group consisting of substituted or unsubstituted  $C_{1-6}$  alkyl, substituted or unsubstituted  $C_{2-6}$  alkenyl, substituted or unsubstituted  $C_{2-6}$  alkynyl, halo, amino, substituted or unsubstituted  $C_{1-6}$  acyl, substituted or unsubstituted aryl, substituted or unsubstituted  $C_{1-6}$  alkoxy, substituted or unsubstituted  $C_{1-6}$  alkoxyalkyl, nitro, hydroxyl, and cyano,

n is an integer selected from 0, 1, and 2; and L is absent.

40. (original) The method according to Claim 36, wherein the compound has the structure of formula 2:

wherein U, V, W, X, Y, and Z may be the same or different and are independently selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted or unsubstituted heterocyclyloxy, substituted or unsubstituted or unsubstituted heterocyclyloxy, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl;

or an enantiomeric or diastereomeric form or a pharmaceutically acceptable salt thereof.

- 41. (original) The method according to Claim 40, wherein U, V, W, X, Y, and Z are independently selected from the group consisting of H,  $C_{1-4}$  alkyl,  $C_{3-6}$  cycloalkyl,  $C_{1-4}$  alkoxy, halo, hydroxyl, and amino.
- 42. (original) The method according to Claim 40, wherein the compound is selected from the group consisting of Compounds 1-19, having the structure indicated by formula 2 and the table below:

$$\begin{array}{c|c}
V & V & W \\
N-N & H & X & Y
\end{array}$$

Compound Number	U	V	W	X	Y	Z
1	Н	Н	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
2	Н	OCH <sub>3</sub>	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
3	Н	OCH <sub>3</sub>	Н	Н	OCH <sub>2</sub> CH <sub>3</sub>	ОН
4	Н	Н	Н	ОН	Н	ОН
5	Н	Н	Н	Н	OCH <sub>3</sub>	ОН
6	Н	Н	Br	ОН	Н	Н
7	Н	OCH <sub>2</sub> CH <sub>3</sub>	Н	OH	OCH <sub>3</sub>	Н
8	CH <sub>3</sub>	Н	Н	OH	OCH <sub>3</sub>	Н
9	Н	Н	Н	ОН	Н	Н
10	Н	OCH <sub>3</sub>	Н	Н	ОН	Н
11	Н	Н	Н	Н	Н	CH <sub>3</sub>
12	Н	Н	C <sub>4</sub> H <sub>9</sub>	Н	C <sub>4</sub> H <sub>9</sub>	OH
13	OCH <sub>3</sub>	Н	Н	Н	Н	Н
14	Н	OCH <sub>3</sub>	Н	Н	Н	ОН
15	Cl	Н	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
16	OCH <sub>3</sub>	Н	Н	Н	Н	ОН
17	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	Н	OCH <sub>3</sub>	OCH <sub>3</sub>
18	OCH <sub>3</sub>	Н	Н	Н	OCH <sub>3</sub>	OCH <sub>3</sub>

19	$OC_2H_5$	Н	Н	Н	OCH <sub>3</sub>	ОН

43. (original) The method according to Claim 36, wherein the compound has the structure of formula 3:

wherein, U and V may be the same or different and are independently selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted carbocyclyloxyalkyl, substituted or unsubstituted heterocyclylaminoalkyl, substituted or unsubstituted or unsubstituted heterocyclyloxy, substituted or unsubstituted or unsubstituted or unsubstituted heterocyclyloxy, substituted or unsubstituted or unsubstituted or unsubstituted or unsubstituted or unsubstituted heterocyclylaminoalkyl; and

T is selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkynyl, and substituted or unsubstituted cycloalkyl.

44. (original) The method according to Claim 43, wherein U and V are independently selected from the group consisting of H,  $C_{1-4}$  alkyl,  $C_{1-4}$  alkoxy, and aryl, and T is selected from the group consisting of H and  $C_{1-4}$  alkyl.

45. (original) The method according to Claim 43, wherein the compound is selected from the group consisting of Compounds 20 and 21, having the structure indicated by formula 3 and the table below:

Compound Number	T	U	V
20	$C_2H_5$	Н	Н
21	$C_2H_5$	Н	C <sub>6</sub> H <sub>5</sub>

46. (currently amended) The method according to <u>Claim 36</u> any of <u>Claims 36-45</u>, wherein the DNA polymerase III is a pol IIIC class or a pol IIIE class enzyme.

47. (currently amended) The method according to <u>Claim 36 Claims 36-45</u>, wherein the DNA polymerase III is from Gram-positive bacteria or mycoplasma bacteria.

48. (original) The method according to Claim 47, wherein the bacterial DNA polymerase III is from Gram-positive bacteria.

49. (original) The method according to Claim 48, wherein the Gram-positive bacteria are selected from the group consisting of *Streptococcus, Enterococcus, Staphylococcus, Bacillus, Clostridium, Listeria*, and combinations thereof.

50. (original) The method according to Claim 46, wherein the DNA polymerase III is a pol IIIE class enzyme.

51. (original) The method according to Claim 50, wherein the pol IIIE class enzyme is from Gram-negative bacteria.

52. (currently amended) The method according to Claim 51 [[49]], wherein the Gramnegative bacteria are selected from the group consisting of *Escherichia, Salmonella, Pseudomonas, Helicobacter, Legionella, Shigella, Yersinia, Neisseria*, and combinations thereof.

- 53. (canceled)
- 54. (canceled)
- 55. (currently amended) A pharmaceutical composition for the treatment or prevention of a bacterial infection comprising an amount of a pyrazole carboxylic acid hydrazide effective to inhibit bacterial growth and a pharmaceutically acceptable carrier, wherein said pyrazole carboxylic acid hydrazide compound has the structure of formula 1a or 1b:

wherein R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are each, independently, selected from the group consisting of hydrogen (H), substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkyl, substituted or unsubstituted acyl, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylaxy, substituted or unsubstituted carbocyclylaxy, substituted or unsubstituted carbocyclylaxyl, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted heterocyclylaminoalkyl, substituted or unsubstituted membered heterocyclyloxy, substituted heterocyclyloxyalkyl, substituted or unsubstituted or unsubstituted heterocyclyloxy, substituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclyloxy, substituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclyloxy, substituted heterocyclyloxyalkyl, substituted heterocyclyloxyalkyl, substituted heterocyclyloxyalkyl;

R<sup>4</sup> and R<sup>5</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, and substituted or unsubstituted cycloalkyl; wherein when R<sup>4</sup> is H, two tautomeric forms depicted by structures 1a and 1b may exist;

R<sup>6</sup> and R<sup>7</sup> are, independently, selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkynyl, substituted or unsubstituted alkylaryl, and substituted or unsubstituted heteroaryl, or R<sup>6</sup> and R<sup>7</sup> are atoms that form part of a aromatic or non-aromatic, heterocylic or carbocyclic ring or ring system, comprising either a monocyclic ring or a fused ring system, having ring atoms selected from the group consisting of substituted or unsubstituted carbon, nitrogen or sulfur; and

L may be absent or selected from the group consisting of linkers having 1-6 atoms in contiguous linear connectivity; or

an enantiomeric or diastereomeric form or a pharmaceutically acceptable salt thereof.

56. (new) The pharmaceutical composition according to Claim 55, wherein said pyrazole carboxylic acid hydrazide compound has the structure of formula 2:

wherein U, V, W, X, Y, and Z may be the same or different and are independently selected from the group consisting of H, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, halo, amino, substituted or unsubstituted aryl, substituted or unsubstituted alkylamino, substituted or unsubstituted alkylaminoalkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxyalkyl, substituted or unsubstituted alkylthio,

substituted or unsubstituted alkylthioalkyl, nitro, hydroxyl, cyano, substituted or unsubstituted carbocyclyl, substituted or unsubstituted carbocyclylakyl, substituted or unsubstituted carbocyclyloxy, substituted or unsubstituted carbocyclylamino, substituted or unsubstituted carbocyclylaminoalkyl, substituted or unsubstituted or unsubstituted or unsubstituted or unsubstituted or unsubstituted or unsubstituted heterocyclylakyl, substituted or unsubstituted membered heterocyclyloxy, substituted or unsubstituted heterocyclyloxyalkyl, substituted or unsubstituted heterocyclylamino, and substituted or unsubstituted heterocyclylaminoalkyl;

or an enantiomeric or diastereomeric form or a pharmaceutically acceptable salt thereof.